

CLAIMS

Subt a¹ What is claimed is:

1. A capacitor comprising:
 - a first level of electrically conductive parallel lines;
 - 5 at least a second level of electrically conductive parallel lines disposed over the lines in the first level, the lines of the first and second levels being arranged in vertical rows;
 - a dielectric layer disposed between the first and second levels of conductive lines;
 - at least one via connecting the lines in each of the rows, thereby forming a parallel array of vertical capacitor plates; and
 - 10 electrically opposing nodes forming the terminals of the capacitor, the parallel array of vertical capacitor plates electrically connected to the opposing nodes in an alternating manner so that the plates have alternating electrical polarities.

- SUB E¹ 7*
- 15 2. The capacitor of claim 1, wherein the conductive lines comprise metal.
 3. The capacitor of claim 1, wherein the conductive lines comprise polysilicon.
 4. The capacitor of claim 1, wherein the dielectric layer comprises silicon dioxide.

- Subt a²*
- 20 5. The capacitor of claim 1, further comprising:
 - at least a third level of electrically conductive parallel lines disposed over the second level lines in manner which extends the rows vertically;

a second dielectric layer disposed between the second and third levels of conductive lines; and

at least one via connecting the second and third level lines in each of the rows so that the third level of lines vertically extends the parallel array of vertical capacitor plates.

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6. The capacitor of claim 1, wherein the first and the at least second multiple levels of electrically conductive parallel lines comprise a plurality of electrically conductive parallel lines arranged in vertical rows, and the dielectric layer comprises a plurality of dielectric layers, each of the layers disposed between opposing levels of conductive lines.

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7. The capacitor of claim 1, wherein the capacitor is constructed over a substrate.

8. The capacitor of claim 7, wherein the substrate is made from a semiconductor material.

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9. The capacitor of claim 1, wherein the capacitor comprises a sub-micron MOS structure.

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10. The capacitor of claim 1, wherein the capacitor comprises a sub-micron CMOS structure.

11. The capacitor of claim 1, wherein the capacitor comprises a sub-micron structure.

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D2

add
B²